

World Vegetable field report

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| Published by | International Institute of Tropical Agriculture |
| June 2020 year | |

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The [Africa Research In Sustainable Intensification for the Next Generation](http://africa-rising.net/) (Africa RISING) program comprises three research-in-development projects supported by the United States Agency for International Development (USAID) as part of the U.S. Government’s Feed the Future initiative.

Through action research and development partnerships, Africa RISING is creating opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program’s monitoring, evaluation and impact assessment.

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Africa RISING appreciates support from the American people delivered through the USAID Feed the Future initiative. We also thank farmers and local partners at all sites for their contributions to the program.

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# Name of lead team facilitators(s)

1. Wayda Peter: Karatu District Horticulturalist and project focal person (Lead the team in the field)
2. Inviolate Dominick: (Provide technical backstopping through on-line communications)

## Purpose of trip

To monitor ongoing demo trials activities and provide extension support to farmers in the 1st year Villages supported by Africa RISING/Kilimo Endelevu (AR/KE) project in Karatu District.

### The specific objectives:

* Provide technical backstopping to farmer group members
* Collect information on demo plots with a description of the current status of the trials
* Through discussions and direct field observations assess farmers group members involvement and interest in participation in 2nd season vegetable demo trial experiments
* Collect photos of all trials established by the farmers
* Make suggestions on the way forward on farm established Vegetable demo trials
* Collect information and photos on key-hole garden established during TOT practical demonstration and others established by famers for documentation of Success story/ good practices

# List of people met during the trip and their details contacts

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Gender** | **Contacts (Email or tel. no.)** |
| Faustine Masha | Extension Bashay and G/Lambo | M | 0755163687 |
| Castle Audi | Extension Buger | M | 0785144999 |
| Annet Ngonge | Extension Changarawe | F | 0689497497 |
| Anitha Daudi | Extension K/Simba | F | 068510433 |
| Hilda Gastro | Extension Chemchem | F | 0766667826 |

# Important results/information gathered during the trip

The report covers the activities carried during the field trip to farmers supported by ARP and KE project in 8 first generation villages from May 2nd week–June 1st Week, 2020. The field visits were led by District Council and KE focal person in collaboration with Ward and village extension agents and local leaders in respective villages with technical support from Inviolate Dominick (Research assistant and ARP field coordinator) through mobile communications.

Total of (36) male and (43) females) participated in the process out of which 71 were farmer group representatives from selected 16 farmer groups, 6 extension agents working as government staff under Karatu District DAICO office, and 2 technical field staff from Kilimo Endelevu Project in Karatu district.

## Methodology

In participatory way a field trip plan was organized together with Extension agents, local leaders and farmers managing experimental trials from year 1 villages then communicated to the village leaders and farmers on the dates of the visits in their villages.

Monitoring of farm trials took place by:

* Discussing and recording the information based on the action plan developed by farmers and Extension agents during TOT training on Sustainable Vegetable production conducted in March 2020.
* Direct observersions, discussing with farmers managing demo trials and assess the performance and daily management of the experiments as well as strengths, and constraints identified by farmers.
* Visiting demonstration plots in all selected villages, taking observations on the current situation and discuss with farmers on the next measures for improvement.

**Table 1.** A summary of the current situation of demo trials

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Village** | **Farmers**  **visited** | **No. of**  **Nurseries** | | **No. of demos** | | **Comments** |
|  |  |  | **Established** | **Transplanted** | **Established** | **With seedlings** |  |
| 1 | Bugeri | 8 | 8 | 2 | 8 | 2 | Pest & diseases affect the seedlings in the nursery |
| 2 | Bashay | 8 | 6 | 6 | 6 | 4 | Heavy rains & floods washed out seedlings both in the nursery and demo plots |
| 3 | Changarawe | 8 | 4 | 4 | 4 | 4 | Floods washed out the seedlings |
| 4 | Rhotia Kainam | 8 | 7 | 7 | 7 | 7 | One of nursery was washed away by heavy rains. |
| 5 | Chemchem | 8 | 4 | 4 | 4 | 4 | The seedlings were affected by Heavy rains/floods |
| 6 | G’Lambo | 8 | 7 | 6 | 8 | 6 | Heavy rains destroy seedlings |
| 7 | Slahhamo | 8 | 6 | 6 | 6 | 6 | Effect of heavy rains |
| 8 | Kambi ya Simba | 8 | 8 | 5 | 5 | 5 | Effect of flood& heavy rains |
| **Total** |  | **64** | **50** | **36** | **48** | **38** |  |

* The table above show that the number of demo trials with seedlings is only 59.4%, the reason reported were due to heavy rains which bring flash flooding that effect of washing seedlings and nursery beds away and that resulted in delaying nursery preparations, seed sowing, and transplanting in many fields
* Pest and disease pressures specifically for tomatoes affected almost all the nurseries which resulted to few numbers of vegetable seedlings survival
* Due to COVID- 19 pandemic and heavy rains roads including feeder roads were not passible something which limited farmer’s access to extension support to address some challenges such as pest and diseases which observed to be much seriously in tomatoes.

# Technical Extension support provided during the trip

Farmers were advised and supported to:

* Practice field sanitation including timely weeding because in some field’s weeds were noted to compete with vegetables due to heavy rains.
* Keep all farm records accordingly to measure efficiency, progress and make productivity projections
* Practice crop scouting for any pest or disease per crop because it can lead to early diagnosis of problems for corrective action, and determine which methods keep crops healthy. Crop examinations can give insight as to where the problem areas are and how preventative techniques are affecting their fields
* Thinning out excessive plants due to excessive seed rate per seed bed to avoid competition.
* Gape fill of dead plants and improve general management practices in both nursery and demo plots.

# Lesson leant/challenges and recommendations

* Vegetable crops/seedlings were affected by damping off caused by fungus and mold due to heavy rains and leads to wet condition in the nursery and farmers’ fields. The vegetable young leaves, roots and stems of newly emerged seedlings noted to be seriously affected. To prevent that farmers were advised to clean all tools before they are used in their field, use new potting soil medium to re-establish seedlings as well to not over irrigate their seedlings
* Seedlings in some nursery looks stunted due to lack of nutrients since there are too many seedlings on seed bed which creates competition for nutrients and sun light
* Tomato plants were seriously affected by blight and Tuta absoluta; very few farmers managed to transplant few seedlings as about 95% of tomato seedlings reported to have died in the nursery
* The farmers were not prepared/expected to receive heavy rains during the period in which they established the nursery, based on last year’s experiences and climate change; therefore, they prepared sunken beds. We recommend that in the future they use raised beds in heavy rainfall areas whereas sunken beds will be suitable during low rainfall seasons.
* Apply good quality mulch materials to regulate soil temperature and maintain moisture, protect the seeds/plants from moving away, suppress weeds as well as to add organic matter in the soil after being decomposed
* Lack of commitment of some farmers; - we advised/reminded the farmers to be committed in their day to day activities including farming in every task being big or small because once the nursery is established it should be given priority as the crops especially vegetables require care and attention from sowing to the time of harvest.
* Some seedlings are not doing well in demo plots due to compacted soils; we advised the farmers to do harrowing regularly when compaction happen to break down the soil surface so as to allow better aeration and percolation of water in the soils.
* No consistency of crops in the nursery neither in demo plots because there is a big variation of sowing and transplanting time/phase due to effects of heavy rains and floods which in turn forces farmers to re-establish nurseries and transplant late than expected
* Farmer practice/Control plots: - almost all vegetable crops grown did not perform well as most farmers managed to raise Ethiopian mustard but not much of nightshade and tomatoes as they were seriously affected by pests and heavy rains.
* Apart from demo trial follow up visits the team visited farmer group members for advice and technical backstopping, among issues observed were an increased consumption of vegetables harvested from farmers field and that 3 farmers have already established their key- hole vegetable garden and others are on the way collecting materials to build key- hole gardens as a result of TOT on sustainable vegetable production training facilitated by World vegetable team with financial support from Africa RISING project to farmer trainers and extension agents in Karatu in March, 2020.

## Limitations

* Heavy rains and bad roads limited continuation of activities regarding the planed time frame however the stated objectives were met.

# Suggestions/activities for follow up

* Continue to provide technical backstopping to farmers managing demo plots and other farmer group members regarding application of Good Agronomic Practices
* Worldveg team in collaboration with Extension agents to follow up and assist farmers on data collection based on the current situation in both improved and farmer practice to have realistic information
* Based on the challenges and lessons learnt as well in order to collect realist data from demo plots the protocol must be followed therefore we strongly suggest that Worldveg team in collaboration with KE partners to re-establish new nurseries with selected vegetable crops (tomato, Ethiopian mustard and nightshade) if possible in June, 2020. The farmers in collaboration with extension agents at all levels are ready to cooperate on this exercise

# Photos and other supporting documents

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**Figure 1**. Different plant materials used for mulching at different crop growing stages. Photo credit: Inviolate Dominick / World Vegetable Center

# **C:\Users\inviolaTE.DOMINICK\Desktop\PHOTOS KARATU\IMG-20200519-WA0143.jpg**

**Figure 2.** Spacing and management practices contribute determine quality of seedlings. Photo credit: Inviolate Dominick/ World Vegetable Center

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**Figure 3.** Compacted soils affect plant growth and vigor. Photo credits: Inviolate Dominick/World Vegetable Center



**Figure 4.** Low cost Key- hole garden option versatile at family level. Photo credit: Inviolate Dominick/World Vegetable Center